U.S. Department of Transportation
United States Coast Guard

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United States Coast Guard

DEPARTMENT OF TRANSPORTATION

U. S. COAST GUARD

PREPARED STATEMENT OF CAPTAIN DAVID H. WHITTEN

DEPUTY CHIEF, OFFICE OF MARINE SAFETY, SECURITY AND ENVIRONMENTAL PROTECTION

ON OIL TRANSPORTATION SAFETY

TO BE PRESENTED BEFORE THE HOUSE OF REPRESENTATIVES

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

SUBCOMMITTEE ON TRANSPORTATION, AVIATION, AND MATERIALS

MAY 24, 1990

BIOGRAPHY

DAVID H. WHITTEN, CAPTAIN, U.S. COAST GUARD

Captain Whitten graduated from the United States Coast Guard Academy in 1962 and served on the Coast Guard Cutter MENDOTA, first as a deck officer and then as an engineering assistant. In 1965 he attended the University of Michigan where he earned a Master's Degree in Naval Architecture and Marine Engineering and Mechanical Engineering. He was then assigned to Coast Guard Headquarters in Washington, DC where he participated in the development of international safety standards for commercial shipping.

In 1971 Captain Whitten was transferred to the Coast Guard's field technical office in New Orleans to supervise the review of commercial ship construction plans for ships built on the Gulf Coast and South Atlantic Coast. He served as Engineering Officer on Coast Guard Cutter CHASE out of Boston, enforcing the drug interdiction program and fisheries conservation laws along the Atlantic Coast until 1977 when he was transferred to the Marine Inspection Office in New Orleans. In this assignment he helped develop the Coast Guard's safety inspection program of offshore drilling operations. In 1980 Captain Whitten was assigned as Chief of the New Orleans field technical office, serving until 1984. He was then selected as Commanding Officer of the Marine Safety Office in Wilmington, North Carolina. His next assignment was as Chief of the Marine Safety Division of the Seventh Coast Guard District, in Miami, Florida, until his present assignment as Deputy Chief of the Office of Marine Safety, Security and Environmental Protection.

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THANK YOU VERY MUCH AND GOOD MORNING MR. CHAIRMAN. I AM CAPTAIN DAVID WHITTEN, AND I AM CURRENTLY SERVING AS DEPUTY CHIEF OF THE OFFICE OF MARINE SAFETY, SECURITY AND ENVIRONMENTAL PROTECTION. TODAY I HAVE WITH ME CAPTAIN JAMES MACDONALD, CHIEF OF THE MERCHANT VESSEL INSPECTION AND DOCUMENTATION DIVISION, AND COMMANDER WILLIAM HOLT, ASSISTANT CHIEF OF THE MARINE ENVIRONMENTAL RESPONSE DIVISION. I WILL SUMMARIZE MY FULL STATEMENT WHICH I WILL BE SUBMITTING FOR INCLUSION IN THE RECORD.

I APPRECIATE THE OPPORTUNITY TO ADDRESS THIS COMMITTEE ON THE ISSUE OF "OIL TRANSPORTATION SAFETY" AS IT RELATES TO THE COAST GUARD'S NATIONAL MARINE SAFETY AND ENVIRONMENTAL PROTECTION PROGRAMS. THESE PROGRAMS ARE INTEGRATED SYSTEMS THAT UNDERGO CONTINUOUS EXAMINATION, AND IT IS THE COAST GUARD'S PHILOSOPHY THAT THE PREVENTION OF OIL SPILLS IS OF PRIMARY IMPORTANCE. THE COAST GUARD HAS BEEN IN THE BUSINESS OF OIL SPILL RESPONSE AND CLEANUP FOR OVER TWENTY YEARS. DURING THAT TIME WE HAVE PUT INTO PLACE A SYSTEM, NOT ONLY TO RESPOND TO SPILLS, BUT ALSO TO PREVENT THEM FROM HAPPENING IN THE FIRST PLACE. IN BROAD TERMS, THIS SYSTEMS APPROACH COVERS THE CONSTRUCTION AND MAINTENANCE OF VESSELS, THEIR PROPER MANNING BY QUALIFIED CREWS, AND THE NECESSARY EQUIPMENT TO SAFELY HANDLE OIL CARGOES AND TO NAVIGATE THE VESSELS.

THE COAST GUARD PROVIDES ONE OF THE MOST MODERN AIDS TO NAVIGATION SYSTEMS IN THE WORLD, INCLUDING VESSEL TRAFFIC SERVICES. WE INVESTIGATE ALL MARINE CASUALTIES AS DEFINED BY REGULATION, TO DETERMINE THEIR CAUSE, INCLUDING OVERSIGHT OF THE CONDUCT OF LICENSED OFFICERS AND DOCUMENTED SEAMEN, AND WE ADMINISTER A CIVIL PENALTY SYSTEM FOR VIOLATIONS. THE COAST GUARD'S 48 CAPTAINS OF THE PORT MAINTAIN AN OIL AND HAZARDOUS CHEMICAL CONTINGENCY PLAN FOR THEIR ZONE OF RESPONSIBILITY. WE MAINTAIN THE NATIONAL STRIKE FORCE, CONSISTING OF TWO TEAMS LOCATED NEAR SAN FRANCISCO, CALIFORNIA, AND IN MOBILE, ALABAMA. EQUIPMENT IS READY TO BE DELIVERED BY COAST GUARD HC-130 AIRCRAFT ANYWHERE IN THE U.S. THESE TEAMS ARE MANNED BY PEOPLE WITH EXTENSIVE EXPERIENCE IN SPILL RESPONSE AND MANAGEMENT. THEY AUGMENT OUR CAPTAINS OF THE PORT, THE PREDESIGNATED ON-SCENE COORDINATORS (OSC) FOR ALL SPILLS IN THE COASTAL REGIONS, THE GREAT LAKES, AND MANY INLAND RIVER AREAS. EACH YEAR WE RESPOND TO ABOUT 8,000 REPORTED SPILLS RANGING IN SIZE FROM A SHEEN TO SPILLS GREATER THAN 100,000 GALLONS.

THIS SYSTEMS APPROACH WORKED WELL FOR US UNTIL THE CATASTROPHIC EXXON VALDEZ GROUNDING AND RELEASE OF OVER 10 MILLION GALLONS OF OIL INTO THE WATERS OF PRINCE WILLIAM SOUND. IN THE AFTERMATH OF THE EXXON VALDEZ CASUALTY, WE BEGAN AN EXHAUSTIVE EFFORT TO INVESTIGATE EVERY ASPECT OF OUR SYSTEM TO SEE WHAT COULD BE DONE TO IMPROVE IT. WE HAVE LOOKED AT OPERATIONAL ISSUES, INSPECTION/ENFORCEMENT, PERSONNEL, NAVIGATION SYSTEMS, PORT CONTROL POLICIES AND PROCEDURES AS WELL AS EQUIPMENT. ATTENTION AGAIN HAS BEEN FOCUSED ON THE DESIGN AND

ARRANGEMENT OF TANK VESSEL CARGO AND BALLAST SYSTEMS TO MINIMIZE THE AMOUNT OF ACCIDENTAL POLLUTION, ISSUES WHICH HAVE BEEN THE SUBJECT OF INTERNATIONAL DISCUSSIONS AND AGREEMENTS SINCE THE EARLY 1970'S BY THE INTERNATIONAL MARITIME ORGANIZATION (IMO).

THOSE DISCUSSIONS IN EARLY 1970 LED TO THE INTERNATIONAL CONVENTION FOR THE PREVENTION OF POLLUTION FROM SHIPS IN 1973 (MARPOL 73). FOLLOW ON PROTOCOLS IN 1978 AMENDED MARPOL 73 AND SAFETY OF LIFE AT SEA (SOLAS) 74. THESE CONVENTIONS DEVELOPED TANKER REQUIREMENTS THAT INCLUDED PROTECTIVELY LOCATED SEGREGATED BALLAST TANKS, CARGO TANK SIZE LIMITATIONS, DAMAGE STABILITY, INERT GAS SYSTEMS, ADDITIONAL NAVIGATION SAFETY EQUIPMENT, CRUDE OIL WASHING SYSTEMS, DEDICATED CLEAN BALLAST TANKS, AND OPERATIONAL DISCHARGE CRITERIA WITH MONITORING CONTROL SYSTEMS. ALL OF THESE REQUIREMENTS HAVE BEEN INCORPORATED INTO COAST GUARD REGULATIONS.

CURRENTLY THE COAST GUARD HAS APPROXIMATELY 31 DOCKETED TANKER SAFETY-RELATED REGULATORY INITIATIVES UNDER DEVELOPMENT. THESE REGULATORY PROJECTS COVER ALL ASPECTS OF THE COAST GUARD'S MISSIONS RELATING TO OIL TRANSPORTATION SAFETY AND ARE IN VARIOUS STAGES OF REGULATORY DEVELOPMENT. ADDED TO THESE WILL BE MANY NEW REGULATORY INITIATIVES THAT WILL BE REQUIRED TO IMPLEMENT THE OIL SPILL LEGISLATION THAT IS PRESENTLY IN CONFERENCE COMMITTEE. AS I AM SURE YOU ARE AWARE, SECRETARY SKINNER IN A LETTER TO THE CHAIRMAN OF THE CONFERENCE COMMITTEE DETAILED THE ADMINISTRATION'S POSITION ON CERTAIN PROVISIONS OF THAT LEGISLATION. I'D BE PLEASED TO PROVIDE A COPY FOR THE RECORD.

OUR EFFORTS IN IMPROVING TANKER SAFETY ARE AUGMENTED BY PARTICIPATION IN THE SHIP STRUCTURE COMMITTEE. THE SHIP STRUCTURE COMMITTEE FOSTERS A RESEARCH PROGRAM TO IMPROVE THE HULL STRUCTURES OF SHIPS AND OTHER MARINE STRUCTURES BY AN EXTENSION OF KNOWLEDGE PERTAINING TO DESIGN, MATERIALS AND METHODS OF CONSTRUCTION. THIS INTERAGENCY COMMITTEE IS COMPOSED OF THE COAST GUARD, MARITIME ADMINISTRATION, NAVAL SEA SYSTEMS COMMAND, MILITARY SEALIFT COMMAND, AND AMERICAN BUREAU OF SHIPPING. THE COMMITTEE HAS PENDING APPROXIMATELY 17 TANKER SAFETY-RELATED TECHNICAL PROJECTS. THESE PROJECTS COVER TOPICS SUCH AS FATIGUE DESIGN PROCEDURES, ELASTIC PLASTIC FRACTURE MECHANICS, AND LOAD EFFECTS ON MARINE STRUCTURES. ALL OF THESE PROJECTS ARE AIMED AT PROVIDING A BROADER KNOWLEDGE BASE FROM WHICH WE CAN ADDRESS VESSEL SAFETY.

THE COAST GUARD HAS INDEPENDENTLY INITIATED MANY STUDIES TO ENHANCE OUR OIL SPILL PREVENTION AND RESPONSE CAPABILITY. ONE SUCH STUDY WILL COMPARE AND CONTRAST THE FEASIBILITY AND TECHNICAL RISKS OF THREE APPROACHES TO MECHANICAL RECOVERY OF OIL FROM THE OCEANS: DEDICATED OIL SKIMMING VESSELS; VESSELS OF OPPORTUNITY SKIMMING SYSTEMS (VOSS) MOUNTED ON COAST GUARD VESSELS; AND DEDICATED POLLUTION RESPONSE BARGES. ANOTHER STUDY WILL DEVELOP CRITERIA TO UPGRADE AND DEVELOP NEW STRIKE TEAM EQUIPMENT. WE ARE DEVELOPING A PLAN TO COLLECT INFORMATION ON OIL SPILL RESPONSE TECHNIQUES, ENVIRONMENTAL IMPACTS, AND HUMAN HEALTH RISKS TO CREATE A DATA BASE THAT ON SCENE COORDINATORS CAN USE IN RESPONDING TO FUTURE OIL SPILLS.

WE ARE WORKING JOINTLY WITH ENVIRONMENT CANADA AND THE U.S. MINERALS MANAGEMENT SERVICE ON PROJECTS THAT INCLUDE IN-SITU BURNING, THICKNESS SENSORS, AND LASER FLUOROSENSORS. WE HAVE UNDER CONSIDERATION FUTURE R&D PROJECTS COVERING DAMAGED VESSEL COUNTERMEASURES, DEVELOPMENT OF A RESPONSE ORGANIZATION TO DEAL WITH INCIDENTS OF NATIONAL SIGNIFICANCE, OIL SPILL RECOVERY SYSTEMS, AND MULTI-AGENCY HAZARDOUS SPILL COUNTERMEASURES.

THE COAST GUARD STRONGLY SUPPORTS THE LEGISLATIVE ENHANCEMENT OF THE EXISTING FEDERAL RESPONSE MECHANISM THAT HAS BEEN SUCCESSFUL FOR MORE THAN 18 YEARS BECAUSE IT RETAINS THE ON SCENE COORDINATOR AS THE SINGLE PERSON IN CHARGE. THE ON SCENE COORDINATOR IS SUPPORTED BY A READILY IDENTIFIABLE CHAIN OF COMMAND AND IS THE IMMEDIATE FOCUS FOR COORDINATION OF ALL SPILL ACTIVITIES. WE ALSO SUPPORT THE RETENTION OF THE CLEANUP REGIME THAT HAS THE RESPONSIBLE PARTY CONDUCT THE CLEANUP IN MOST CASES WITH THE ADDED PROVISION THAT ALLOWS THE ON SCENE COORDINATOR TO DIRECT PERSONS ON-SCENE WITHOUT ACTUALLY FEDERALIZING THE CLEAN-UP.

WE HAVE COMMISSIONED A STUDY BY THE NATIONAL ACADEMY OF SCIENCES (NAS) TO INVESTIGATE THE DESIGN OF TANKERS AND OCEAN GOING TANK BARGES. THIS IS THE FIRST COMPREHENSIVE STUDY OF CONSTRUCTION FEATURES FOR PREVENTING ACCIDENTAL POLLUTION SINCE THE REQUIREMENTS OF THE 1978 PROTOCOL TO MARPOL 73 WERE IMPLEMENTED. MOST TANKERS BUILT SINCE THEN ARE REQUIRED TO HAVE PROTECTIVELY LOCATED SEGREGATED BALLAST TANKS. THEIR BALLAST TANKS ARE LOCATED TO SHIELD A PERCENTAGE OF THEIR CARGO TANKS FROM THE HULL IN CRITICAL LOCATIONS. THE NAS STUDY SHOULD

PROVIDE US WITH AN EVALUATION OF THE EFFECTIVENESS OF THIS DESIGN ARRANGEMENT. THE NAS STUDY IS DEVELOPING A LIST OF TANKER DESIGN MEASURES THAT HOLD PROMISE FOR FURTHER REDUCING POLLUTION RISKS. THE NAS STUDY WILL EVALUATE THESE MEASURES FOR EFFECTIVENESS AND IDENTIFY ANY DEFICIENCIES THAT COULD NEGATE PERCEIVED BENEFITS. THE NAS STUDY WILL MAKE USE OF NEW COMPUTER MODELING TECHNIQUES THAT PERMIT SIMULATION OF THE EFFECTS OF VARIOUS ACCIDENT SCENARIOS. THIS TECHNIQUE WILL BE INVALUABLE TO NAS IN DEVELOPING THEIR RECOMMENDATIONS. THE COAST GUARD IS LOOKING FORWARD TO THE RESULTS OF THE NAS STUDY WHICH IS EXPECTED TO BE COMPLETED IN DECEMBER 1990.

MR. CHAIRMAN, THIS CONCLUDES MY STATEMENT. I WILL BE GLAD TO ANSWER ANY QUESTIONS THAT YOU OR THE OTHER MEMBERS OF THE SUBCOMMITTEE MAY HAVE.